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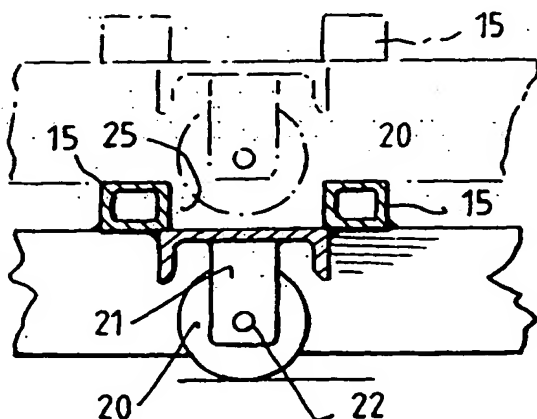
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(54) Title: **SEAFREIGHT LOADING CHASSIS**



(57) Abstract: A pallet (10) which includes a chassis (16) which can be accommodated in the base of a seafreight container, said chassis is provided with locomotion means (20) to enable the pallet to be easily moved in and out of the container.

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## **SEAFREIGHT LOADING CHASSIS**

### **Area Of The Invention**

This invention relates to the area of freight pallets and in particular to a mobile pallet for use in the loading of seafreight containers. Such a pallet may be used for any goods but has a particular application in the loading of goods having large dimensions.

### **Background To The Invention**

Seafreight containers can be difficult to load particularly where large quantities of long goods are involved. Standard containers can have such materials pushed into them however the contents are then difficult to unload and also provide problems of access to a container for inspection or other purposes.

It has also been known to provide pallets with rollers on their upper surfaces to assist in enabling materials or goods to be loaded onto such pallets however, in the application of loading seafreight containers the problems described above remain.

Another alternative is to use open seafreight containers which have a base only rather than side walls and tops. These however are costly to unload and difficult to locate appropriately on a ship. In addition there is a consequent requirement for additional protection for the goods on such a container during cartage on the open sea.

**Summary of The Invention**

It is an object of this invention to provide a means for easily loading and unloading a container and in particular a seafreight container.

The invention is a pallet which includes a chassis which can be accommodated in the base of a seafreight container which chassis is provided with locomotion means to enable the pallet to be easily moved in and out of the container.

It is preferred that the lateral dimensions of the chassis be similar to those of the container in order to minimise movement of the pallet within the container.

It is preferred that the locomotion means be provided by rollers located at the base of the chassis. It may be further preferred that the pallet be provided with locking means to prevent movement within the container.

It is further preferred that the pallets of the invention be stackable. It is also preferred that the pallet rollers be able to locate in a recess in the surface of another pallet of the same type.

Apart from the provision of such a recess in the surface of the pallet this surface can take any shape desired including a flat surface or longitudinal members or the like.

It is also preferred that the pallet sides adjacent any leading edge of the pallet are provided with adjustable guide means to aid the entry of the pallet into a container.

In order that the invention may be more readily understood we will describe by way of non limiting example a specific embodiment of the invention.

#### **Outline Of The Drawing Figures**

- Fig.1        Shows a perspective view of the pallet as viewed from above;
- Fig. 2        Shows a diagrammatic representation of the pallet rollers as attached to the underside of the frame of the pallet;
- Fig.3        Shows a diagrammatic representation of a guide means at the leading side of a pallet edge;

#### **Brief Description Of The Drawing Figures**

A preferred embodiment of the embodiment is a seafreight loading pallet 10 as shown in Figure 1 which includes a chassis 16 having sides 11 and ends 12 as well as longitudinal members 14 manufactured from channel shaped extruded metal, although any appropriate shape could be used. Lateral members 15 are also provided which form a base upon which goods can be loaded.

While the preferred embodiment of the invention as shown is basically an open chassis it is envisaged that a complete decking could be provided or any other arrangement of longitudinal and lateral members used.

The chassis 16 is able to be moved by the provision of relatively broad roller members 20 attached to the underside of the chassis, as shown in Figure 2, between adjacent lateral members 15 and suspended between supports 21 carrying axle 22 about which the rollers 20 rotate.

As shown in Figure 2 there is a recess between adjacent lateral members 15 on either side of a roller 20 which is sufficient to accommodate that part of a roller 20 which protrudes below the base 24 of the chassis 16. This arrangement permits the pallets to be stacked upon each other compactly when not in use.

The pallet as shown is able to be easily pushed into and out of a container using a forklift or the like. This means that a pallet can be loaded and unloaded outside of the container and also that the contents of a container can be easily inspected if required.

Although the pallet can be readily used in this manner it may be preferred that guide means 45 be provided within channel 41 as shown in Figure 2 preferably adjacent the ends 12 of the pallet and at the sides 11 thereof.

These guide means 45 consist of rollers 40 which are mounted on axles 43 on mounts 42 which are preferably adjustable in and out of the channel 41 to accommodate slight variations in container sizes. It may also be preferred that these guide means are lockable in a chosen position.

As it is preferable that either end of the seafreight container pallets can enter the containers the preferred embodiment of the pallet is both rectangular and symmetrical. Therefore the embodiment of the invention having guide means would have these at either side of either end of the chassis at least.

Whilst one embodiment of the invention is a mobile pallet which is dimensioned to be accommodated as a single unit in a seafreight container it is envisaged that more than one such pallet could be located within a container although it would be preferable if each such pallet had lateral dimensions substantially the same as those of the seafreight container.

In addition the upper surface of the pallet can be of any configuration required and the pallet could be provided with elevated sides, either collapsible or not, it would be preferred however that the pallets still be stackable.

It is envisaged that other embodiments of the invention will exhibit any number of and any combination of the features of those previously described and whilst we have

described herein one specific embodiment of the invention it is to be understood that variations and modifications in this can be made without departing from the spirit and scope thereof.

The claims defining the invention are as follows:

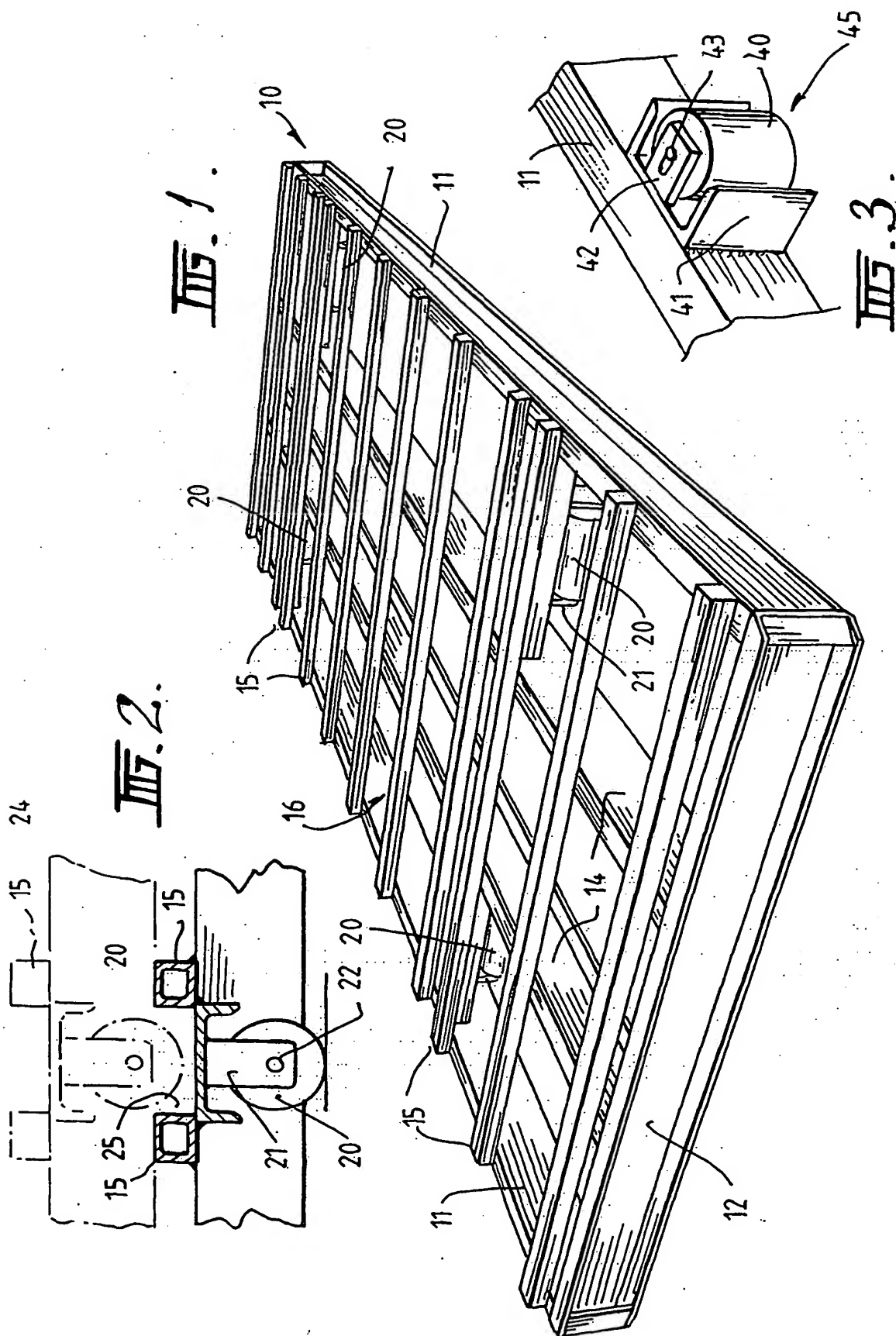
1. A pallet which includes a chassis which can be accommodated in the base of a seafreight container which chassis is provided with locomotion means to enable the pallet to be easily moved in and out of the container.
2. A pallet as claimed in claim 1 wherein the locomotion means is provided by rollers located at the base of the chassis.
3. A pallet as claimed in claims 1 or claim 2 wherein the pallet chassis has an upper surface and has a periphery including a leading edge, which enters the pallet, sides and a trailing edge.
4. A pallet as claimed in claim 3 wherein the leading edge is identical to the trailing edge.
5. A pallet as claimed in claim 4 wherein the leading and trailing edges of the chassis have dimensions which are substantially similar to the lateral dimensions of the container in order to minimise movement of the pallet within the container.
6. A pallet as claimed in claim 5 wherein adjustable guide means are provided on at least part of the pallet periphery.



7. A pallet as claimed in claim 6 wherein the sides adjacent a leading edge of the pallet are provided with adjustable guide means to aid the entry of the pallet into a container.
8. A pallet as claimed in any one of claims 1 to 7 wherein locking means are provided on the chassis to fix the pallet in position in the container.
9. A pallet as claimed in claim 8 wherein the locking means is associated with the adjustable guide means.
10. A pallet as claimed in any one of claims 1 to 9 wherein the pallets are stackable.
11. A pallet as claimed in claim 10 wherein each pallet locomotion means is located in a recess in the upper surface of a lower pallet when stacked.
12. A pallet substantially as hereinbefore claimed with reference to the accompanying drawings.

DATED THIS 10<sup>th</sup> DAY OF MAY 2002

MAURICE BAKER  
By his Patent Attorneys  
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# INTERNATIONAL SEARCH REPORT

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int. Cl. <sup>7</sup> : B65D 19/42		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
Refer electronic databases consulted below		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
DWPI IPC B65D 19/-, 90/-, B66F 19/00, B65G 7/02, 7/04 and keywords: chassis, pallet, wheel, roller, cargo, freight and similar terms		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1583763 A (GPG INTERNATIONAL LIMITED) 4 February 1981 See especially figure 1	1-12
X	WO 00/51898 A (ARCA SYSTEMS AB) 8 September 2000 See especially figures 1 and 2	1-12
X	DE 3246347 A1 (PLANMARINE AG) 20 June 1984 See especially figure 1, item 16	1-12
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>		
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2737883 A (DECORBIE GISLAIN) 21 February 1997 See especially figure 1	1-12

### Information on patent family members

**PCT/AU02/00585**

Patent Document Cited in Search Report		Patent Family Member	
GB	1583763	NONE	
WO	00/51898	AU	200035786
		EP	1165385
		SE	9900717
DE	3246347	EP	111887
FR	2737883	NONE	

END OF ANNEX